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***Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. from Northern Spain (Lepidoptera: Psychidae)**

T. Sobczyk & A. Werno

Abstract

A new Psychidae, *Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. is described from Northern Spain. This is the first species of this genus known from the Iberian Peninsula. The differences to *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850), the species with the largest and most western distribution in Europe, are shown. Above all, the broader scales on the fore wings characterize *R. (R.) hellersi* compared to *R. (R.) tarnierella*. In addition, an overview of European *Reisseronia* species is given.

KEY WORDS: Lepidoptera, Psychidae, *Reisseronia*, new species, Spain.

***Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. del norte de España
(Lepidoptera: Psychidae)**

Resumen

Se describe del norte de España una especie nueva de Psychidae, *Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. Esta es la primera especie conocida del género en la Península Ibérica. Se muestran las diferencias con *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850), la especie con la distribución más amplia y occidental en Europa. Sobre todo, las escamas más anchas sobre los alas anteriores caracterizan a *R. (R.) hellersi* comparada con *R. (R.) tarnierella*. Además, se da una visión general de especies europeas de *Reisseronia*.

PALABRAS CLAVE: Lepidoptera, Psychidae, *Reisseronia*, nueva especie, España.

Introduction

A determination transmits to the first author included, among others Psychidae, a *Reisseronia* species from Spain. It has already been suspected that it is an undescribed species since the genus was unknown from the Iberian Peninsula. At a first glance, the males are different to *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850), the most widespread species. Eventually, a review of all the known species of *Reisseronia* revealed that these specimens belong to a so far undescribed species, which is described in this paper.

Material and methods

The genitalia slides were made according to standard procedures. After examination, the genitalia and antennae were mounted separately on a microscope slide and were embedded in Euparal.

Photos of genitalia and antennae were taken by a Bresser LCD microscope. Photograph of

specimen were taken with a Canon EOS 600D and objective Canon MP-E 65 mm f/2.8 1-5x Macro.

The terminology of morphological characters follows SAUTER (1956) and SAUTER & HÄTTENSCHWILER (1999).

Interocular Index: vertical eye diameter divided by interocular distance measured just above the level on the tentorial pits.

Abbreviations

CTS	Collection Thomas Sobczyk (Germany)
GU	genital preparation
MNCN	Collection Antonio Vives / Museo Nacional de Ciencias Naturales, Madrid (Spain)
MNHN	Musée National d'Histoire Naturelle, Luxemburg (Luxemburg).
ZfBS	Center for Biocuration Landsweiler-Reden of the Saarland (Germany)

Results

Reisseronia (Reisseronia) hellersi Sobczyk & Werno, sp. n. (Figs 1-2, 3c, d, 4)

Type material Holotype (Fig. 1) ♂: SPAIN, Castilla y León, [LEÓN], Sabero, 1200 m, 05-XI-2001, leg. M. Hellers, deposited in the MNCN. Paratypes: 3 ♂♂, same data (CTS, MNHN, ZfBS).

Description (n=4): Forewing length 3.5 mm. Wingspan 7.1-8.1 mm. Basic colouring monochrome black brown. Eyes dark grey, round, interocular index 0.65. Ocelli missing. Head hair black-brown, labial palps reduced, one-segmented, densely covered with hair like, downward, black brown (distally lighter) scales with length of twice the eye diameter. Antennae (Fig. 2) length 2.0 mm, longer than half the length of forewings (3.5 mm), a total of 17 to 18 segments. Scapus and pedicellus closely scaly, the other segments only dorsally with scales, ventrally with cilia. Scales wide, in addition to black-brown scales there are lighter brown scales. Ventrally antenna combs with cilia, which a length of 2.5 to three times the diameter of the comb teeth. The comb teeth reach in the area of the 7th-10th antennal segment almost 2.5 to three times the length of the associated antennal segment. Forewings broad, monochrome black-brown coloured, without drawings. Cover scales relatively broad, mostly two-pointed (mostly class II, occasionally class III according to SAUTER, 1956), mixed with few longer and hair-shaped scales (Fig. 3c). Forewing eight unstalked veins from the discal cell, this divided by media stem. A small intercalary cell is partly pronounced, accessory cell absent. Fringes brown-grey, ventrally partly longer, and whitish, lanceolate multi-pointed, correspond to class 2 b according HAUSER (2012) (Fig. 3d). Hindwings coloured how forewings, five unstalked veins from the discal cell. Hind wing with narrower scales, distally mostly rounded, rarely two-pointed. Fringe scales lancet-shaped, but narrower than those of the forewing fringes. Body densely covered with black-brown hair-shaped scales. Foretibia without epiphysis, midlegs and hindlegs with apical tibial spurs.

Male genitalia (Fig. 4): GU 139-2020 Sobczyk, length 0.65 mm, typical of *Reisseronia*, rhomboid. Valvae curved, protrude beyond the rear edge of the tegumen. Tegumen laterally almost straight, distally rounded. Vinculum broad, mediolaterally slightly arched, saccus only hinted at. Phallus 0.35 mm, thick, stretched, median somewhat narrower.

Female and larval cases unknown.

Biology: Marcel Hellers (in litt.): "According to my notes, I caught the males in the morning on a dry grass that was grazed by sheep and goats and didn't look interesting. Only a few species flew here, I only have two types of Tortricidae in the collection from this location: *Cnephasia alticolana* (Herrich-Schäfer, 1851) and *Phtheochroa frigidana* (Guenée, 1845), which is common in places in this area. Unfortunately, I had not noted any other Tortricidae that I might have

observed. There was surface water in places (certainly from a long downpour), but the ground at the roadside was very dry. Knud Larsen and I stayed at this location for only a short time, because at second glance it was uninteresting.”

Distribution: At present *R. (R.) hellersi* Sobczyk & Werno, sp. n. is known only from the type locality. Its occurrence can be also expected at other parts of Northern Spain. The small species that flies during the day can easily be overlooked. The females are certainly wingless, and the larval cases are likely to be on the ground in the vegetation and are barely longer than one centimetre. The habitat has no peculiarities and is grazed by sheep and goats. The discovery at the foothills of the Cantabrian Mountain range and the altitude could be evidence that this species is an endemic of this mountain range. For example, a large number of endemic plant species are known from the region (LOIDI *et al.*, 2012).

Etymology: Named after Marcel Hellers (Luxemburg). Together with Knud Larsen (Denmark) he discovered this new species.

Diagnosis: Small, evenly dark coloured species with broad forewing scales. Wingspan 7.1-8.1 mm, male genitalia rhomboid.

Discussion

So far seventeen *Reisseronia* species / subspecies are known. *Reisseronia flavociliella* (Mann, 1864) occurs exclusively in Asia and has been described from Turkey (Brussa) (SOBCZYK, 2011). The other species have a European distribution. Most species are endemic with a small distribution area. The genus *Reisseronia* Sieder, 1956 sensu stricto, included thirteen and the subgenus *Tsikalasia* Hauser, 1996 four species. *Reisseronia* s. str. are characterized by the absence of an epiphysis on the tibia of the forelegs, so that *Reisseronia (Tsikalasia) malickyi* Hauser, 1996, *Reisseronia (Tsikalasia) tschetterikovi* Solyanikov, 1990, *Reisseronia (Tsikalasia) muscualutum* Kurz, Kurz & Zeller-Lukashort, 2006 and *Reisseronia (Tsikalasia) satanella* Kurz, Kurz & Zeller-Lukashort, 2006 can be excluded. Within the subgenus *Reisseronia* there are three species parthenogenetic: *Reisseronia (Reisseronia) gertrudae* Sieder, 1962, *Reisseronia (Reisseronia) imielinella* Malkiewicz, Sobczyk & Larysz, 2013 and *Reisseronia (Reisseronia) annae* Larysz, 2017. Furthermore species can be characterized by the greater number of antennal segments (more than 18): *Reisseronia (Reisseronia) staudingeri* (Heylaerts, 1879), *Reisseronia (Reisseronia) magna* Hättenschwiler, 1982, *Reisseronia (Reisseronia) arnscheidi* Weidlich, 2006, *Reisseronia (Reisseronia) ionica ionica* Weidlich, 2016, *Reisseronia (Reisseronia) odysseus* Weidlich, 2016 and *Reisseronia (Reisseronia) ionica lefkadensis* Weidlich, 2016. The new species is most similar to the following species. *Reisseronia (Reisseronia) pusillella* (Rebel, 1949), endemic to the Balkans, has very narrow scales on fore wings, which are usually two-pointed. They are mixed with hair-shaped scales. *Reisseronia (Reisseronia) nigrociliella* (Rebel, 1934), also a Balkan endemite, has a larger wingspan. Similarities also exist to the type species *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850). According to previous knowledge, *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850) was the species whose distribution extends the furthest to Western Europa. It differs from this by the wing span (*tarnierella* 6-7 mm, *hellersi* sp. n. 7-8 mm) and by the significantly wider scales of the forewings (Fig. 3a, b). For *R. (R.) tarnierella* it is stated that it is a species of the plains (0-300 m) and the males emerged at midday (WEIDLICH 2006). *R. (R.) hellersi* Sobczyk & Werno, sp. n. was collected in the morning and observed at an altitude of 1200 m.

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Table 1. Overview of *Reisseronia* species (males) (after ARNSCHEID & WEIDLICH 2017; WEIDLICH 2016, own knowledge).

<i>Reisseronia</i>	Distribution	Wingspan	Antennal segments
<i>R. hellersi</i> Sobczyk & Werno, sp. n.	Northern Spain	7.1-8.1	16-18
<i>R. tarnierella</i> (Bruand, 1850)	disjunct in Central France, Netherlands, Belgium, Germany, Italy, Slovakia	6-7	16-18
<i>R. nigrociliella</i> (Rebel, 1934)	Balkan	9-10	15-17
<i>R. staudingeri</i> (Heylaerts, 1879)	Russia (Saratov and Volgograd district)	8-9	19-20
<i>R. pusillella</i> (Rebel, 1949)	Balkan	8-8.5	15-17
<i>R. magna</i> Hättenschwiler, 1982	Greece (Peloponnes)	8.5-10	23-25
<i>R. arnscheidi</i> Weidlisch, 2006	Romania (South Carpathians)	7.5-9.5	19-20
<i>R. malickyi</i> Hauser, 1996	Crete	9.2-11.2	15-17
<i>R. tschetverikovi</i> Solyanikov, 1990	Ukraine (Crimea)	7.2-10	17
<i>R. muscualutum</i> Kurz, Kurz & Zeller-Lukashort, 2006	Central Italy	6-6.8	15
<i>R. satanella</i> Kurz, Kurz & Zeller-Lukashort, 2006	Italy (Appeninnes)	7.9-10.7	20
<i>R. ionica ionica</i> Weidlisch, 2016	Greece (Ionian Islands, Kefalonia)	10.6-13.3	21-23
<i>R. ionica odyssaeus</i> Weidlisch, 2016	Greece (Ionian Islands, Ithaka)	8.9-11.4	21-22
<i>R. ionica lefkadensis</i> Weidlisch, 2016	Greece (Ionian Islands, Lefkada)	8.1-10	20-22
<i>R. flavociliella</i> (Mann, 1864)	Turkey	8-9	?

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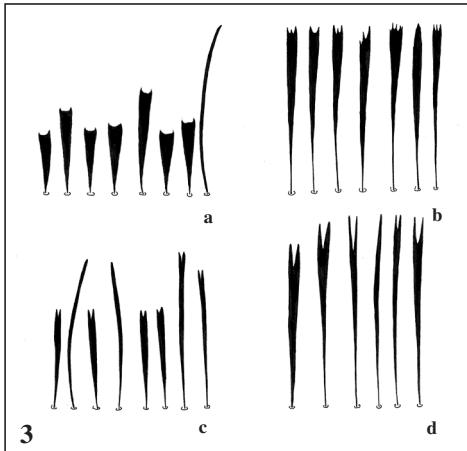
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1



2



3



4

Figs 1-4.— **1-2.** *Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. ♂: **1.** Holotype. **2.** Antennae paratype (scale 1.0 mm). **3.** Forewing scales between apical discal cell and termen, forewing fringes between veins r_3 and m_2+m_3 : *Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. **a.** scales, **b.** fringes; *Reisseronia (Reisseronia) tarnierella* (Bruand, 1850) **c.** scales, **d.** fringes. **4.** *Reisseronia (Reisseronia) hellersi* Sobczyk & Werno, sp. n. genitalia paratype (GU 139-2020 Sobczyk) (scale 0.5 mm).